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Deliverable D4.1

Analysis on homogeneity of polycrystalline absorbers: correlation with process parameters (PVD, chemical)

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Dissemination Level **PU**	
PU	Public
PP	Restricted to other programme participants (including the Commission Services)
RE	Restricted to a group specified by the consortium (including the Commission Services)
CO	Confidential, only for members of the consortium (including the Commission Services)

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Partners	NEXCIS, HZB
Authors	Stephan van Duren*, Lisa Rischυ, Thomas Unold*, Thomas Goislardυ (*HZB, υNEXCIS)
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Due to IPR restrictions the Kestcells Consortium only can make public the executive summary of this Deliverable

Executive Summary

Deliverable 4.1 investigates the effect of pre-annealing of metal stack precursors on absorber homogeneity. Precursors of copper poor and stoichiometric composition were compared. They were thermally pretreated and subsequently sulfurized in a tube furnace. Both precursors and absorbers were characterized with XRF, XRD, SEM-EDX and Raman to study the effect of the thermal pretreatment on the elemental, structural and morphological homogeneity of the absorbers. Grain size and grain compositional distribution of the absorbers depends on annealing temperature and varies across the surface and volume of the absorbers. High temperature pre annealing of copper poor precursors was most beneficial for the surface homogeneity and consequently achieved best conversion efficiencies among the investigated batch.